

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION**

UNITED STATES OF AMERICA,

Plaintiff,

v.

NATHANIEL BUTLER-LUDWIG,

Defendant.

23 CR 537

Hon. John F. Kness

**SENTENCING MEMORANDUM
ON BEHALF OF NATHANIEL BUTLER-LUDWIG**

Dated: January 8, 2025

BREEN & PUGH

by: /s/ Thomas M. Breen
Thomas M. Breen
Robert W. Stanley
Christopher W. Dallas
53 West Jackson Boulevard
Suite 1550
Chicago, IL 60604
(312) 360-1001

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Introduction

Nathaniel Butler-Ludwig has pled guilty to knowingly distributing one kilogram of Methylenedioxymethamphetamine (“MDMA”), otherwise known as ecstasy. He now appears before this Court accepting responsibility for his actions, for which he is remorseful of, and ready to accept just punishment for his actions.

Integral to understanding Nathaniel’s criminal conduct in this case, is to understand who Nathaniel is. Nathaniel’s life is much more than what is detailed in a brief indictment. While the conduct he pleads guilty to is a single attempted drug deal, Nathaniel himself, presents as an immensely complex case. He is remarkably intelligent, dependable, and compassionate. He is a son, a brother, and a friend. Nathaniel is 31 years old with no prior convictions and has never been incarcerated prior to this case.

Yet, inextricably intertwined to his much-desired positive attributes, a mosaic of internal struggles lay within. Nathaniel suffers from multiple mental health diagnoses such as post-traumatic stress disorder, depression, borderline personality disorder, and agoraphobia. And unfortunately, deeply intertwined in the life and trials of Nathaniel, has been the ominous and debilitating presence of substance abuse.

Indeed however, for the mistakes he has made, he has matched with attempts at self-improvement. Nathaniel has attempted to better himself with mental health counseling and therapy. He has recognized the damage his use of substances has caused and attempted substance abuse treatment at various times. That struggle,

not unfamiliar to many substance abusers, has proven exactly that: a struggle. His attempts at sobriety have come with setbacks. But much like the life of Nathaniel, the mistakes of relapsing have been met with redeeming unwavering persistence, as well as resilience, to not give up, and to overcome his struggles.

Understanding Nathaniel reveals how his actions have led him here and demonstrates how a good person who makes a series of poor decisions can end up before a federal judge to be sentenced for a felony. Nathaniel's case presents a well-grounded example where the true aims of sentencing are best fulfilled embracing the whole host of factors set forth in § 3553(a), rather than one simple factor such as a guideline range or a drug-quantity ratio. Regretful of his actions and misdeeds, Nathaniel requests this Court to impose a sentence well-below the guideline range – a sentence that is “sufficient, but not greater than necessary” in light of: (1) his acceptance of responsibility; and (2) the 1:500 MDMA to marijuana ratio set forth in the USSG Guidelines being fundamentally flawed. These sentencing factors, and others, justify a sentence well-below the guidelines in this case.

Nathaniel's Personal History and Characteristics

Nathaniel was born in St. Louis, Missouri to John and Daniela Butler-Ludwig on August 1, 1993. PSR ¶ 37. The oldest of two children, Nathaniel grew up in a loving household in Oak Park, Illinois after moving from St. Louis. *Id.* at ¶ 38. His mother initially stayed home to raise Nathaniel, and later his younger sister, Lillian, and his father worked to support the family. *See* Letter of Daniela Butler-Ludwig.

At first, Nathaniel's family provided a close-knit system of support as he grew

up in a loving and caring family. *See* Letters of Daniela Butler-Ludwig and John Butler. The family settled in Oak Park so that John could pursue his PhD at the University of Chicago and work full time at the University. *See* Letter of John Butler. However, John and Daniela's marriage endured many challenges leading to a divorce when Nathaniel was approximately 11 years old.

The family's fracture devastated Nathaniel in particular. *Id.* Not only did his parents' divorce turn his life upside down, but Nathaniel and his sister were required to change schools because their parents could no longer afford to send them to University of Chicago Laboratory Schools. *Id.* Like many children enduring their parents' divorce, Nathaniel and his sister were required to spend a portion of time at each parent's new home. *See* Letter of Daniela Butler-Ludwig. Nathaniel's mother well explains the situation foisted upon him:

The news of his parents' separation was hard on Nathan Having to adjust to spend equal times at both parents' home and going back and forth between different neighborhoods became difficult for Nathan to adjust to. Furthermore, money became tight due to living in single parent households which resulted in having to pull Nathan out of the private school he attended ... and starting fresh in a much larger public school without any of his previous friends.

Id.

His life became ungrounded, and it was during this time period Nathaniel started demonstrating symptoms of anxiety and depression. *Id.* The anxiety and depression took a toll and consequently caused his self-esteem and confidence to plummet. *Id.* Nathaniel felt that his parents were abandoning him and, worse yet, he was required to abandon the friends he had at school and start over again at a new

school without any meaningful peer-support. *See* Letter of John Butler. The stress and anguish caused by his family's separation and the resulting consequences presented added challenges for a person like Nathaniel because he is quiet and introverted; he was not the child to share his thoughts and feelings. *See* Letters of Daniela Butler-Ludwig and John Butler. Consequently, he bottled up his thoughts and feelings and had no outlet to share his anguish.

Initially, Nathaniel earned high marks in school and performed well. *Id.* at ¶ 42. However, beginning in middle school, students began to bully him making it tough to fit in and make friends. *Id.* Students would verbally abuse him shouting insults and derogatory remarks, as well as physical abuse such as pushing Nathaniel into lockers and tripping him. *Id.* The students bullied Nathaniel because he had difficulty picking up on social cues and had struggled with his social skills. *Id.*

The bullying continued through high school, and ultimately, the dread that Nathaniel felt about school proved too much of a distraction, compounded with the unresolved anguish of his parents' divorce. His grades began to slip significantly. PSR ¶ 42. School became an awful place for Nathaniel. *Id.* His difficulties concentrating and staying on top of his work were too challenging. *Id.* Nathaniel began skipping class and hanging out with kids that were using drugs. *See* Letter of John Butler.

Nathaniel initially attended Lincoln Park High School and qualified for the international baccalaureate (IB) program. *Id.* at ¶ 81. However, the combination of bullying and introduction to drugs lead the school to place him in Truman Middle College, an alternative high school, in his junior year in order to graduate. *Id.*

Nonetheless, Nathaniel ended up earning his high school diploma in 2011. *Id.*

Following high school, Nathaniel's mental health and substance troubles accelerated. Nathaniel attempted to use substances to self-medicate himself. There is no other way to explain this period for Nathaniel other than being a time of immense internal suffering and no direction. He has contemplated suicide a number of times and he spent days without leaving his home as he suffers from agoraphobia. *See Exhibit 2, Bridgeview Clinical Services Diagnosis and Treatment Plan.* This deep sadness left him without purpose and a strong feeling of being lost. Consequently, the use of illicit substances to self-medicate grew in dosage and frequency. Nathaniel entered the unwavering grasp of addiction at great cost to himself. He became a daily user of multiple drugs and alcohol rendering him numb. This was how Nathaniel would cope with his depression.

Even during a struggling period of his life, Nathaniel attempted to better himself. He enrolled in Harold Washington College, in Chicago, Illinois in August of 2011. PSR ¶ 82. Nathaniel attended Harold Washington College on and off for 10 years attempting to obtain his associate's degree. PSR ¶ 82. Ultimately, Nathaniel received his associate's degree from Harold Washington in 2021. He studied digital multimedia designs and earned certifications in basic and advanced digital multimedia interactive design and development. *Id.* He obtained a 3.67 grade point average graduating with high honors. *Id.* Pursuing his degree was Nathaniel's attempt to better himself and to try and leave the throes of addiction behind him.

In 2018 however, after acknowledging that he was in a very low point in his

life, Nathaniel voluntarily enrolled into an inpatient dual diagnosis program at Chicago Lakeshore Hospital. PSR ¶ 59. Though he checked himself out after three days, Nathaniel did enroll and completed an outpatient dual diagnosis program through Chicago Lakeshore Hospital. *Id.*

In 2021, realizing at long last that he needed help, Nathaniel sought mental health counseling. *Id.* at 60. He eventually settled on a therapist at Bridgeview Clinical Services in Naperville and had continued attending mental health counseling sessions throughout the pendency of his case. *Id.*

Factor Warranting a Variance

I. The Court Should Grant a Variance to Nathaniel Because the 1:500 MDMA to Marijuana Quantity Ratio was Arbitrarily Enacted Based on Questionable and Discredited Science

The law permits a district court to vary from the Guidelines for no other reason than policy concerns or disagreements concerning the applicable Guidelines and whether they further the objectives of sentencing. Appellate courts give such variances the same respect as traditional departures and that a district court does not abuse its discretion to do as much.

The Court should grant a variance to Nathaniel because the 1:500 MDMA to marijuana ratio that the U.S. Sentencing Commission enacted was substantially predicated on questionable science that has since been discredited and retracted. The 1:500 ratio is inconsistent with the purposes of sentencing set forth in 18 U.S.C. § 3553(a) and the Court should use a quantity-ratio of 1:35 MDMA to marijuana ratio.

A. The Court May Vary Below the Guidelines Motivated Solely on Policy Concerns

A district court is not permitted to presume that a sentence within the Guidelines range is reasonable. *Rita v. United States*, 551 U.S. 338, 348 (2007). The Supreme Court has unambiguously supported the notion that the Guidelines are nothing more than advisory. *See Nelson v. United States*, 555 U.S. 350, 352 (2009) (“The Guidelines are not only *not mandatory* on sentencing courts; they are also not *presumed* to be reasonable”). Similarly, where a sentence within the Guidelines is not entitled to a presumption of reasonable, a sentence outside of the Guidelines is not presumed unreasonable. *Gall v. United States*, 552 U.S. 38, 51 (2007); *United States v. Jordan*, 435 F.3d 693, 698 (7th Cir. 2005).

Additionally, a district court does not abuse its discretion to issue a sentence that varies from the Guidelines solely for broad policy concerns or disagreements. *Kimbrough v. United States*, 552 U.S. 85, 110-11 (2007). Even in a “mine-run” case, policy disagreements permit the sentencing court to vary from the Guidelines. *Id.* at 109-10; *Spears v. United States*, 555 U.S. 261, 264 (2009). And such variance need not be predicated on that the Guidelines may produce an excessive sentence in a particular case. *Id.* A variance motivated on policy concerns or categorical disagreements with the Guidelines, where the Guideline at issue does not “exemplify the Commission’s exercise of its characteristic institutional role,” are entitled to as much deference on appeal as a traditional departure. *Id.*

Here, the 1:500 MDMA to marijuana quantity ration is inconsistent with the characteristic institutional role of the Commission and is greater than necessary to

accomplish the goals of sentencing.

B. The United States Sentencing Commission's Characteristic Institutional Role

The Sentencing Reform Act of 1984 (“SRA”) created the Commission and directed the Commission to develop and adopt sentencing Guidelines that would further the purposes of sentencing set forth in 18 U.S.C. § 3553(a)(2), and provide certainty, fairness, reduce unwarranted sentencing disparities, maintain sufficient flexibility to permit individualized sentences, and reflect the advancement of knowledge of human behavior. Pub. L. 98-473, 98 Stat. 2068; 28 U.S.C. § 991(b)(1). Further, the SRA empowered the Commission to “develop means of measuring the degree to which the Guidelines are effective in meeting the purpose of sentencing,” and granted the Commission extensive research power to accomplish this goal. 28 U.S.C. § 991(b)(2); 28 U.S.C. § 995(a)(12) – (16). The Commission was to review and revise the Guidelines based on its own research and feedback from, while consulting with, professionals working in the criminal justice system. 28 U.S.C. § 994(o).

The SRA sets forth the Commission's core characteristic institutional role. *Kimbrough*, 522 U.S. at 109; *Rita*, 551 U.S. at 348-50. There are two main aspects of the Commission's characteristic institutional role. The first, (1) reliance on empirical evidence of pre-guideline sentences; and (2) the review and revision of the guidelines. *Id.* The Supreme Court has explained it is “fair to assume” that the guidelines reflect a rough approximation of sentences that *might* achieve the objectives of § 3553(a) because, first, the Commission based the first set of guidelines on an empirical study of average time served before the guidelines. *Rita*, 551 U.S. at 348-50. Second, the

guidelines can evolve in response to sentencing data, research, and input from the criminal justice professionals. *Id.*

However, there have been instances where the Commission inadvertently deviated from its characteristic institutional role, and the resulting guidelines strayed from the stated objectives within § 3553(a). The 1:100 crack cocaine to powder cocaine quantity ratio is the most notable example that demonstrates where the Commission inadvertently deviated from its characteristic institutional role. See *Kimbrough*, 552 U.S. at 101.

The Supreme Court in *Kimbrough* found that empirical research did not support the Guidelines' 1:100 crack cocaine to powder cocaine quantity ratio. *Id.* at 95-96. The Court explained that the ratio was determined based on the ratio Congress used in setting minimum and maximum sentences in the Anti-Drug Abuse Act of 1986. *Id.* The ratio was Congress' incorrect and unsubstantiated assumptions that crack cocaine was more dangerous than powder cocaine. *Id.* at 97-98. Consequently, the Commission attempted to remedy the error and amend the guideline to a 1:1 ratio. *Id.* at 99. However, Congress blocked the amendment. *Id.* The Supreme Court held that since the empirical evidence demonstrated the 1:100 ratio to be inconsistent with the Commission's characteristic institutional role, district courts were free to disagree and use a different ratio. *Id.* at 109.

Similarly to the 1:100 crack cocaine to powder cocaine ratio, the 1:500 MDMA to marijuana ratio relied on suspect and unreliable empirical data that has since been discredited and retracted. Consequently, the Commission's use of the 1:500 ratio is

an irreconcilable departure from its characteristic institutional role.

C. The 1:500 MDMA to Marijuana Ratio is Flawed and Based Upon Defective and Discredited Science

The Court should not use the 1:500 MDMA to marijuana quantity ratio stated in Guideline §2D1.1 to determine Nathaniel's appropriate sentence. The ratio is the product of flawed science that has since been discredited concerning the dangers associated with MDMA use which was a material reason the Commission instituted the ratio initially. In essence, the Commission's belief regarding the risks associated with MDMA use were erroneous. *See* Alyssa C. Hennig, *An Examination of Federal Sentencing Guidelines' Treatment of MDMA ("Ecstasy")*, Belmont L. Rev., 1:267, 269 (2014) (hereinafter "Treatment of MDMA"). Like the erstwhile 1:100 crack cocaine to powder cocaine ratio, the MDMA ratio is the product of misguided beliefs predicated on defective science concerning the dangers of MDMA use. *Id.* The Commission deviated from its characteristic institutional role adopting the 1:500 ratio. *Id.* at 270. Consequently, defendants sentenced under the 1:500 ratio set forth in §2D1.1 receive sentences that are greater than necessary to accomplish the goals of sentencing, identical to those defendants sentenced under the 1:100 crack cocaine to powder cocaine ratio. *Id.*

1. The Commission's Findings

Prior to 2001, the marijuana equivalency table's MDMA to marijuana ratio was 1:35. *United States Sentencing Commission*, Report to Congress: MDMA Drug Offense, Explanation of Recent Guideline Amendments, p. 6 (2001) (hereinafter "Ecstasy Report"). MDMA gained popularity in the late 1980's becoming a prominent

drug on college campuses and in the rave music scene. Treatment of MDMA at 279 (citing Steven B. Karch, *A Historical Review of MDA*, 4 Open Forensic Journal, 20-21 (2011)). MDMA's popularity caused concern because its use was popular for people under 25 years old. *Id.* MDMA popularity significantly increased over time, and the DEA estimated that two-million pills or tablets were being imported into the country each week. *Id.* at 280 (citing Julie Holland, *Ecstasy: The Complete Guide: A Comprehensive Look at the Risk and Benefits of MDA*, 18-19 (2001)).

Congress responded with passing the Ecstasy Anti-Proliferation Act of 2000, which recommended the Commission increase penalties for ecstasy-related offenses and directed the Commission to review and amend the Guidelines so that the base offense levels were comparable to offenses involving methamphetamine, which had a 1:2000 ratio to marijuana at the time. *Id.* at 281 (citing Children's Health Act of 2000, § 3664(b)(1)).

In furtherance of Congress's directive, the Commission reviewed the available scientific and popular literature on ecstasy, received input from criminal justice and public health professionals, held public hearings, and considered information regarding the increased trafficking patterns and challenges faced by law enforcement, the pharmacological effects and health hazards associated with ecstasy use, and the increase ecstasy use among youths. *Id.* at 281.

As a result of the data collected at the time, the Commission determined that ecstasy offenses should be more severe than cocaine (1:200 marijuana ratio) but less severe than heroin (1:1000 marijuana ratio). Ecstasy Report at 5. The Commission

based its determination on three reasons. Treatment of MDMA at 281. First, unlike MDMA, cocaine is not neurotoxic. *Id.* Second, cocaine is not as aggressively marketed to the youth like MDMA. *Id.* Third, cocaine is only a stimulant while MDMA is a stimulant and a hallucinogen. *Id.* Consequently, the Commission determined a 1:500 MDMA to marijuana ratio to be appropriate. *Id.*

2. Current State of Scientific Research Regarding MDMA

The Commission relied on empirical data at the time concerning the physiological effects and potential dangers of ecstasy that has since been discredited. *Id.* at 284. The Commission noted that ecstasy caused “physical effects such as an enhanced sense of pleasure and self-confidence, increased energy, feelings of peacefulness, acceptance, empathy, closeness with others, and a desire to be touched.” *Id.* Yet, that ecstasy caused “increased heart rate and blood pressure, restlessness, muscle tension, next day hangover, and a strong urge to repeat use, despite the fact [ecstasy] is not physically addictive” concerned the Commission. *Id.* at 284-85. However, available information at the time of the Commission’s investigation suggesting that ecstasy possessed neurotoxic characteristics, in that it would result in permanent harm to a user’s brain and affect cognitive functions, most concerned the Commission. *Id.* Though the Commission acknowledged the scientific uncertainty regarding MDMA neurotoxicity, it relied on empirical evidence that concluded ecstasy was neurotoxic. *Id.* at 285. Critically, the empirical evidence the Commission relied upon was incomplete and inaccurate, and much of it has been discredited and retracted. *Id.* at 286.

Most of the studies the Commission relied upon were conducted by one scientist, George Ricaurte. *Id.* at 287. Dr. Ricaurte was required to withdraw and retract much of his work regarding ecstasy entirely undermining and discrediting much of the empirical evidence the Commission relied upon for its findings in determining an appropriate drug quantity ratio. *Id.* Dr. Ricaurte has since been immersed in scandal. *Id.* In 2003, he was forced to retract a published study that concluded the amount of ecstasy a person typically consumes in a single night was sufficient to cause permanent brain damage. *Id.* at 288 (citing Donald G. McNeil Jr., *Research on Ecstasy is Clouded By Errors*, N.Y. Times, Dec. 2, 2003). The problem with Dr. Ricaurte's study was that he did not use ecstasy in his study, rather he used methamphetamine. *Id.* Dr. Ricaurte was further required to retract four additional studies regarding MDMA because those too used methamphetamine instead of ecstasy. *Id.* Several highly esteemed scientists have alleged that Dr. Ricaurte's conclusions were unreliable, and worse yet, that he fraudulently manipulated the data of his studies to make the drug seem more harmful to obtain federal grant money. *Id.* While the Commission relied on studies where Dr. Ricaurte was not the lead or the sole scientist, he was involved in every single study that the Commission relied on for the proposition that MDMA is neurotoxic. *Id.* at 289.

Moreover, despite using the wrong drug in the studies, Dr. Ricaurte's studies were also rife with methodological error. *Id.* at 290. First, the studies used animals rather than human beings as subjects, raising concerns as to whether the studies used doses that are functionally equivalent to recreational doses in humans. *Id.*

(citing G. Hatzdimitriou et al., *Altered Serotonin Innervation Patterns in the Forebrain of Monkeys Treated with MDMA Seven Years Previously: Factors Influencing Abnormal Recovery*, 191 J. Neuroscience 5096 (1996)). Second, the studies failed to consider and account for interspecies differences in metabolizing drugs. *Id.* at 290 (citing A.R. Green et al., *MDMA: On the Translation from Rodent to Human Dosing*, 204 Psychopharmacology 375 (2009)). Particularly, the validity of studies that used monkeys is questionable because monkeys “have far more sensitivity to [ecstasy’s] chemical neurochemical effects, and even at relatively low doses sustain persistent measurable effects.” *Id.* (citing Charles S. Grob, *Deconstructing Ecstasy: The Politics of MDMA Research*, 8 Addiction Res. 6, 549 (2000)). Third, the studies failed to account and control for variables such as impure ecstasy and polydrug use. *Id.*

Indeed, the science is not conclusive concerning the harms of ecstasy use, the scientific literature since the Commission’s report certainly suggests that the Commission overstated the harms of ecstasy in its report to Congress. *Id.* at 291. Moreover, the Commission grossly understated the divergent opinions in the scientific literature concerning the harms of ecstasy when it reported there was “some disagreement” over neurotoxicity. *Id.* at 291-92. At the time the Commission issued its report, a number of highly esteemed scientists had authored published literature suggesting ecstasy may not be neurotoxic. *See id.* at 292 (describing studies from 1995, 1998, and 1999). A number of studies after the Commission issued its report failed to find neurotoxic effects from ecstasy use. *Id.* (describing studies from 2002

and 2011).

One 2004 study in particular found no statistically significant difference between the performance of MDMA users and non-users on neuropsychological tests. *Id.* at 294 (citing J. Halpern et al., *Residual Neuropsychological Effects of Illicit 3, 4-Methylsenedioxymethamphetamine (MDMA) in Individuals with Minimal Exposure to Other Drugs*, 75 *Drug & Alcohol Dependence* 135 (2004)). The study results demonstrated that users displayed “virtually no differences from non-users on any measures” of functional cognitive defects. *Id.* Significantly, this study has been corroborated. *Id.* (citing Michael Lyvers & Penelope Hasking, *Have Halpern et al. (2004) Detected ‘Residual Neuropsychological Effects’ of MDMA? Not Likely.*, 75 *Drug & Alcohol Dependence* 149 (2004)). The scientific literature has demonstrated since the Commission’s report that any potential neurotoxicity is highly unlikely to be permanent or significant. *Id.* This point is critical because the Commission based its findings and ultimate determination to institute a 1:500 ratio on its misguided belief that neurological harm from neurotoxicity was permanent and would have significant consequences on vital neurological functions like memory. *Id.*

3. District Courts Have Declined to Follow the 1:500 MDMA to Marijuana Ratio at Sentencing

The United States District Court for the Southern District of New York is one example where a sentencing court considered whether 1:500 ratio provided for sentences that were greater than necessary to accomplish the goals of sentencing. *United States v. McCarthy*, 2011 WL 1991146. In *McCarthy*, the court held a two-day evidentiary hearing where it heard four expert witnesses regarding the validity of the

empirical studies the Commission had relied upon in adopting the 1:500 ratio. 2011 WL 1991146, *1 (S.D.N.Y. May 19, 2011). The court did agree with some of the Commission's findings and its concerns, but it did not find all of the Commission's reasoning to be sound. *Id.* at *2. The court found "the Commission's statement that cocaine is only a stimulant, while MDMA is both a stimulant and a hallucinogen, is without factual support and largely irrelevant. Experts for both parties testified that MDMA is not properly characterized as a hallucinogen." *Id.*

The court further found that while there is adverse health effects to MDMA use, the Commission ignored several effects of cocaine that render it significantly more harmful than MDMA. *Id.* at *3. The court stated:

For example, cocaine is responsible for far more emergency visits per year than MDMA. (*See* Def.'s Third. Supp. Sentencing Mem. Ex. 2: U.S. Dep't of Health and Human Services, *Drug Abuse Warning Network 2007: National Estimates of Drug—Related Emergency Department ("DAWN")* 22 (2010) (finding that cocaine abuse was responsible for 553,530 emergency room visits, or 29.4% of drug-or alcohol-related emergency room visits in 2007, while MDMA was responsible for 12,748 visits, or 0.7%). Even controlling for the fact that cocaine is more commonly used than MDMA, cocaine is still approximately 16 times more likely to lead to hospitalization. (*Compare* DAWN 22, with Def.'s Third Supp. Sentencing Mem. Ex. 3: U.S. Dep't of Health and Human Services, *Results from the 2007 National Survey on Drug Use and Health* 252 (2008) (finding that 5,738,000 people over the age of 12 used cocaine in 2007 while 2,132,000 people used MDMA). As the Government's witnesses acknowledged, MDMA fatalities are "rare."

Cocaine is also far more addictive than MDMA. Indeed, MDMA is "one of the least addictive drugs. Moreover, cocaine use causes several adverse health effects not implicated by MDMA use---such as "cardiovascular effects, including disturbances in heart rhythm and heart attacks, respiratory effects, such as chest pain and respiratory failure; [and] neurological effects, including strokes [and] seizures." United States Sentencing Commission, *Report to Congress: Cocaine and Federal Sentencing Policy* ("Cocaine Report") 65 (2007).

Id. at *3 (citations cleaned up).

The court concluded that the Commission's comparison of the two drugs was "selective and incomplete because the Commission focused only on neurotoxicity, therefore ignore several aspects of cocaine that made it significantly more harmful than[ecstasy]." *Id.* at *3-4. The court ultimately used a 1:200 MDMA to marijuana ratio, which is the ratio for cocaine related offenses. *Id.* at *5. In its reasoning, the court stated "'the need to avoid unwarranted sentence disparities among defendant with similar records who have been found guilty of similar conduct.' 18 U.S.C. § 3553. This fundamental principle is violated when disparate drug equivalencies are established for similar narcotics based on an incomplete analysis." *Id.* at *4.

Then, in *United States v. Qayyem*, another district court in the Southern District of New York declined to apply the 1:500 ratio. 2012 WL 92287, *2 (S.D.N.Y. Jan. 11, 2012). The court reviewed more recent scientific research regarding ecstasy but also relied heavily on the evidentiary findings in *McCarthy*. *Id.* The court found that the Commission: (1) failed to compare ecstasy to cocaine using the same rubric it used to compare ecstasy to heroin; (2) there was less violence associated with ecstasy trafficking than cocaine trafficking; (3) the Commission incorrectly classified ecstasy as a hallucinogen; and (4) ecstasy was not as addictive as cocaine. *Id.* The court similarly followed the 1:200 ratio used in *McCarthy*. *Id.*

D. The Court Should Sentence Nathaniel Using a 1:35 Drug Quantity Ratio

The Court should adopt the 1:35 MDMA to marijuana quantity ratio in place before the Commission increased the ratio based on now discredited and retracted science when sentencing Nathaniel.

As discussed above, the empirical evidence that the Commission relied upon was unsound. So much so, that much of the studies the Commission relied upon have since been discredited and retracted. The Commission fixated on the possible neurotoxicity that may result from MDMA use. However, the answer to that issue is inconclusive at best. The Commission relied on studies that suggested MDMA has neurotoxic properties, but most of the studies that the Commission relied upon were entirely flawed and did not test MDMA, rather the tests used methamphetamine. On the other hand, studies since the Commission's report have failed to find any neurotoxic effects resulting from MDMA use.

Additionally, the Commission's analysis comparing MDMA and cocaine was incomplete. *Qayyem*, 2012 WL 92287, at *3. It failed to account for the exponential increased likelihood a cocaine user was to be admitted to the emergency room compared to an MDMA user as well as cocaine's addictive properties. *McCarthy*, 2011 WL 1991146, at *3. Moreover, the Commission failed to account for the fact that cocaine trafficking is associated with more violence than MDMA trafficking. *Qayyem*, 2012 WL 92287, at *3

The incomplete analysis that relied on flawed empirical data results in an unwarranted and unnecessary sentencing disparity that results in a sentence greater

than necessary to fulfill the aims of sentencing. The Commission established a disparate drug quantity ratio predicated on an incomplete analysis and flawed science. Thus, a 1:500 MDMA to marijuana ratio, a ratio that is exponentially higher than cocaine, causes an unwarranted sentencing disparity and should not be used. The 1:35 ratio previously used provides for a sentence for Nathaniel that is sufficient, but not greater than necessary.

Using the 1:35 ratio, Nathaniel's base offense level would be 16, and his total offense level, after adjustments, would be 11. With a criminal history category I, the resulting advisory Guideline range is 8 – 14 months imprisonment.

Alternatively, the Court should follow sister courts and adopt a 1:200 ratio which is the drug quantity ratio for cocaine to marijuana. Using the 1:200 ratio, Nathaniel's base offense level would be 24, and his total offense level, after adjustments, would be 19. With a criminal history category I, the resulting advisory Guideline range is 30 – 37 months imprisonment.

Nature and Circumstances of the Offense

Nathaniel agrees with the facts set forth in the plea agreement detailing the nature and circumstances of the offense. It is true that he attempted to distribute one (1) kilogram of MDMA as it is detailed in the plea agreement.

Other §3553(a) Sentencing Factors

I. Specific and General Deterrence

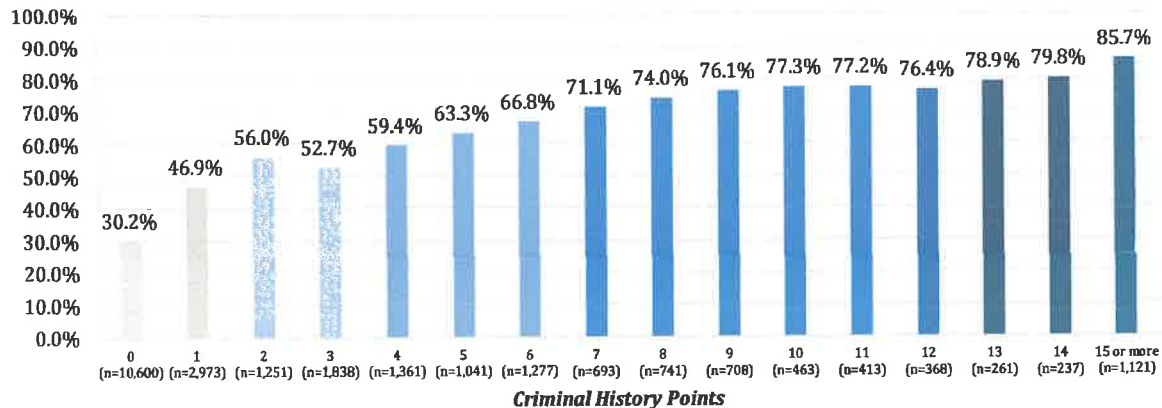
While effective deterrence, both specific and general, may require a credible threat of incarceration, that does not mean a long-term custodial sentence is

necessary in every case.

A. Specific Deterrence

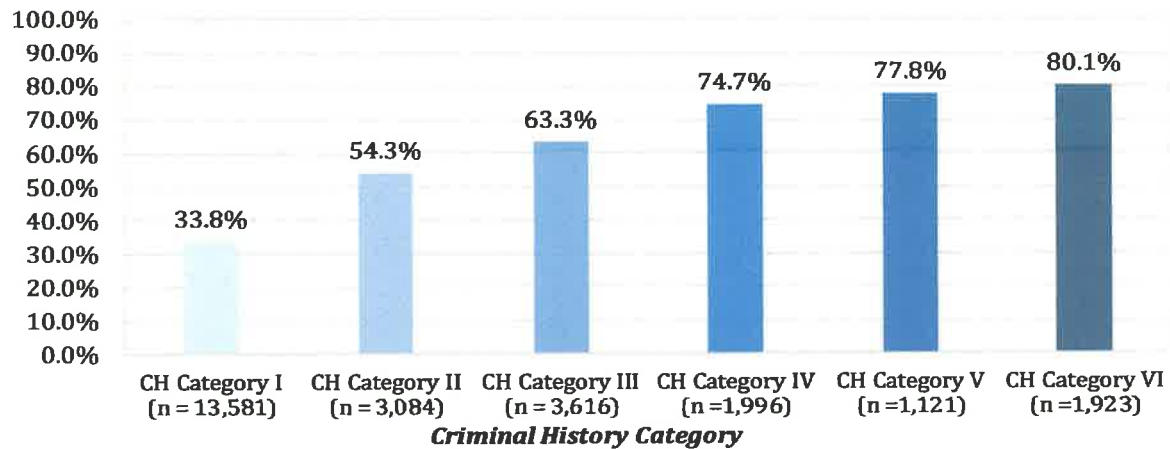
Studies conducted by the Sentencing Commission conclude that an individual's recidivism rate correlates with his Criminal History Category. Nathaniel has zero criminal history points, placing him in Criminal History Category I, one of the least likely groups to reoffend. See U.S. Sentencing Commission, *The Past Predicts the Future: Criminal History and Recidivism of Federal Offenders*, pp. 7-8 (Mar. 2017) (finding that the higher the criminal history category of an individual, the higher the recidivism rate) (see figure 1 and 2).

Figure 1.
Rearrest Rates for Recidivism Study Offenders by Criminal History Points



SOURCE: U.S. Sentencing Commission's 2005 Recidivism Release Cohort Datafile, RECID05. Of the 25,431 cases in this study, the Commission excluded cases from this analysis that were missing information necessary to perform the analysis.

Figure 2.
Rearrest Rates for Recidivism Study Offenders by Criminal History Category



Indeed, 33.8% of individuals with a Criminal History Category of I are rearrested as compared to 80.1% of individuals with a Criminal History Category of VI. *Id.* at 8 (figure 2). Moreover, 30.2% of individuals with zero criminal history points are rearrested compared to 85.7% of individuals with 15 or more points. *Id.* at 7 (figure 1). Nathaniel has never been incarcerated and has no prior criminal history. He is a first-time offender, and a long sentence of incarceration is greater than necessary to prevent him from reoffending. See *United States v. Fathalla*, 2008 WL 4501057, *4 (E.D. Wis. Sept. 15, 2011); see also *United States v. Baker*, 445 F.3d 987, 992 (7th Cir. 2006) (affirming below-Guidelines sentence based in part on the defendants' "lack of a criminal history," and because "a prison term would mean more to Mr. Baker [a defendant who had never been incarcerated before] than to a defendant who previously had been imprisoned"); accord *United States v. Qualls*, 373 F. Supp. 2d 873, 877 (E.D. Wis. 2005) ("Generally, a lesser period of imprisonment is required to deter a defendant not previously subject to lengthy incarceration than is necessary to

deter a defendant who has already served serious time yet continues to re-offend”).

B. General Deterrence

To be sure, incarceration can be a valuable tool for incapacitating and punishing offenders. Long prison sentences, however, do little to deter people from committing future offenses. Daniel S. Nagin, *Deterrence in the Twenty-First Century: A Review of the Evidence*, 42 *Crime & Just.* 199, 201 (2013) (finding that “there is little evidence that increases in the length of already long prison sentences yield general deterrent effects that are sufficiently large to justify their social and economic costs”). In other words, a long prison sentence is a misguided approach. Damon M. Petrich, et al., *Custodial Sanctions and Reoffending; A Meta-Analytic Review*, 50 *Crime and Justice* ____ (2021).

“Current empirical research shows that while certainty of punishment has a deterrent effect, ‘increases in severity of punishments do not yield significant (if any) deterrent effects.’ Amy Baron-Evans et. al., *Deconstructing the Career Offender Guideline*, p. 36 (April 2011), <https://www.fd.org/sites/default/files> (last visited on June 19, 2023), (citing Michael Tonry, *Purposes of Functions of Sentencing*, 34 *Crime and Justice: A Review of Research* 28-29 (2006)). In fact, the peer-reviewed literature has reached the same conclusion: “compared with noncustodial sanctions, custodial sanctions, including imprisonment, have no appreciable effect on reducing reoffending.” Damon M. Petrich, et al., *Custodial Sanctions and Reoffending; A Meta-Analytic Review*, 50 *Crime and Justice*, at 49 (2021).

II. Just Punishment

In determining what constitutes “just punishment,” it is significant that a felony conviction, standing alone, is an extremely significant punishment for a defendant like Nathaniel who has no criminal background. *See, e.g., United States v. Engler*, 806 F.2d 425, 440 (3d Cir. 1986) (“[I]t has been traditionally recognized that collateral consequences of felony convictions are both inevitable and serious”); *Parker v. Ellis*, 362 U.S. 574, 593-94 (1960) (Warren, C.J., dissenting) (“[C]onviction of a felony imposes a status upon a person which ... seriously affects his reputation and economic opportunities”). The Court may also consider the consequences Nathaniel has already experienced, as well as the collateral consequences that Nathaniel.

Given Nathaniel’s history and characteristics, the nature and circumstances of his offense, the collateral consequences of his conviction, and his lowered risk of recidivism, a sentence significantly below the guidelines would be just punishment for Nathaniel.

Conclusion

Nathaniel has made a series of serious mistakes – of that he does not dispute. Yet, our sentencing scheme provides that we must consider more than the details in a brief indictment. We must afford proper consideration to the goals of deterrence and rehabilitation. And too, we must consider the calculations that produce a guideline range. And our sentencing scheme also acknowledges the tough task for a sentencing court to impose a sentence that is sufficient but not greater than necessary for that particular defendant. Thus, the Sentencing Reform Act sanctions the Court to look

beyond the mechanical equations that yield a total offense level so that a court may impose not just punishment, but punishment that is just. As with Nathaniel, his mistakes shall be adjudged, equally so however, alongside his redeeming qualities. For those, there is no dispute, he possesses as well.

For the reasons set forth above, he respectfully requests the Court impose a sentence using a marijuana equivalency ratio less than 1:500. And respectfully asks this Court for a sentence well-below the Guidelines.

January 8, 2025

Respectfully submitted,

/s/ Thomas M. Breen

Thomas M. Breen
Robert W. Stanley
Christopher W. Dallas
BREEN & PUGH
53 W. Jackson Blvd., Suite 1550
Chicago, Illinois 60604
(312) 360-1001 (t)
(312) 362-9907 (f)
tbreen@breenpughlaw.com
rstanley@breenpughlaw.com
cdallas@breenpughlaw.com

Attorneys for Nathaniel Butler-Ludwig

Certificate of Service

The undersigned attorney hereby certifies that the foregoing document was served on **January 8, 2025**, in accordance with Federal Rule of Criminal Procedure 49, Federal Rule of Civil Procedure 5, Local Rule 5.5, and the General Order on Electronic Case Filing (ECF) pursuant to the district court's system as to ECF filers.

By: /s/ Thomas M. Breen